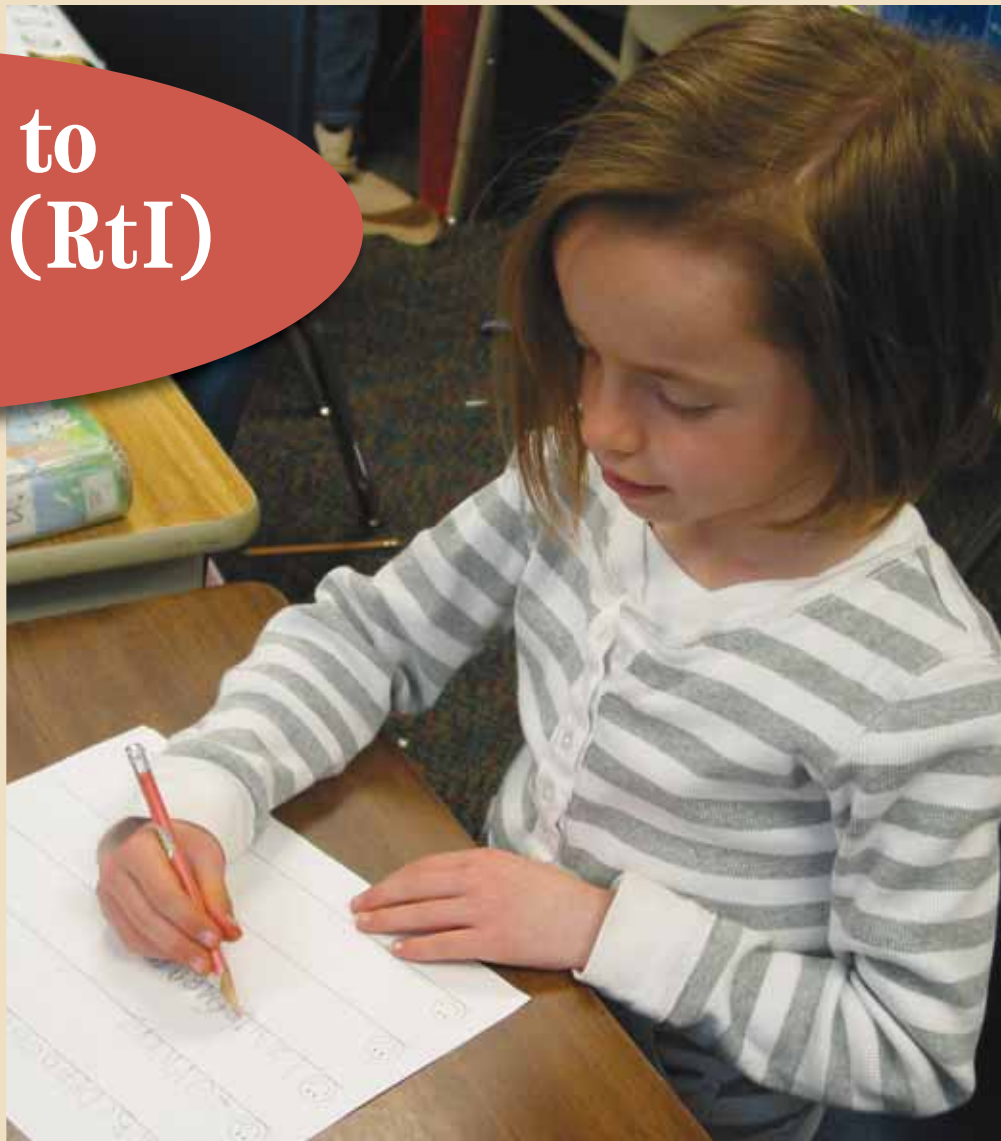


# Response to Intervention (RtI) Model

## Using The Print Tool To Develop a Collaborative Plan

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Caitlin shows the occupational therapist her favorite grip for holding a pencil.

School can be very frustrating for children with poor fine motor skills as they try to keep up with their peers during writing, drawing, coloring, and cutting activities throughout the daily school routine. Caitlin is a first-grade student in general education whose poor fine motor skills interfered with her participation in classroom activities. Although she had experience in handwriting in kindergarten (at least 20 to 30 minutes per day of direct instruction) and in first grade (15 to 20 minutes per day of direct instruction from September through November), the discrepancy between her performance and that of her peers increased, as the other students mastered fine motor tasks (e.g., coloring intricate details, cutting out detailed pictures)

## How the RtI Model was used to provide intervention for a general education student who was at risk academically.

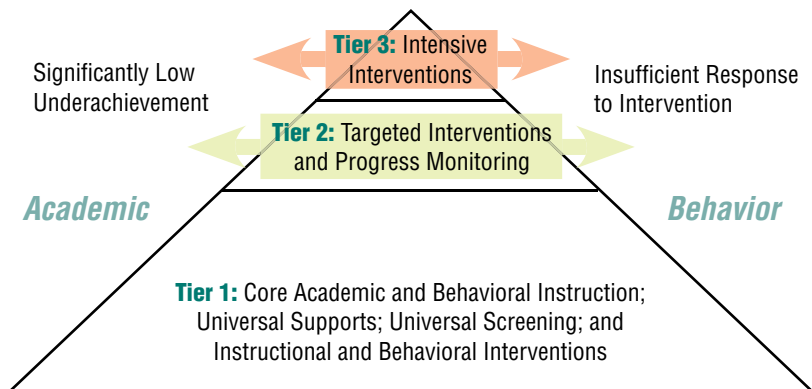
and letter formation for writing sentences. Caitlin became more frustrated at school as she attempted these tasks. Her parents and school staff met to develop a plan to help.

Caitlin's school uses a Response to Intervention (RtI) Model. RtI is a multi-tiered approach to general education that focuses on helping *all* students, identifies students who are at risk for academic or behavioral concerns, and provides targeted instruction and intervention strategies for students whose rate of progress is behind the classroom norm. Figure 1 on page 10

shows the three tiers of the model. Tier 1 indicates strong core instruction for all students, and screening to identify those children who perform below expectations, indicating that they are at risk academically or behaviorally. Tier 2 indicates targeted interventions by school staff for those children who were identified as being at risk in Tier 1. Tier 3 indicates intensive, individualized interventions for students who have not responded to Tier 1 and Tier 2 interventions.

Caitlin was identified as being at risk and was discussed at the school's

**Figure 1. Response to Intervention (RtI) Model**



From the IDEA Partnership Collection, [www.idea.org](http://www.idea.org), at the National Association of State Directors of Special Education. Used with permission.

Teacher Assistance Team (TAT) meeting in December. The members of the TAT team (Caitlin’s mother, teacher, and principal, and the district’s teacher for children identified as at risk—known as the at-risk teacher) discussed Caitlin’s strengths and needs. Table 1 reflects Caitlin’s strengths, along with the concerns, strategies tried by the teacher, and plan developed by the team. One of the strategies that the TAT members identified was to have the school occupational therapist meet with the teachers to collaborate on additional suggestions to enhance Caitlin’s fine motor and writing performance.

In January, the occupational therapist talked with both the general education teacher (during a class break) and Caitlin’s mother (via phone call) to develop an occupational profile of Caitlin. The occupational therapist also observed Caitlin’s performance during writing time in the classroom. This observation allowed the therapist to compare Caitlin’s work with that of 18 peers performing the same task.

In addition, an Iowa-normed screening tool for handwriting was used to compare Caitlin’s performance with that of her peers across the state. During the 2-minute copying probe on the Iowa Writing Assessment and Norms (IOWAN),<sup>1</sup> Caitlin demonstrated difficulty copying the sentences. Although she copied many words, only one word met all the criteria (e.g., appropriately sized, spelled correctly, clear spacing between words and within words) and only 11 letters were written so that they were recognizable within discernable words. Compared with her peers across Iowa, Caitlin’s scores were at 7% for number of words written and 13% for number of letters copied in a 2-minute period. Her very low scores prompted the occupational therapist to use The Print Tool<sup>2</sup> to further analyze Caitlin’s writing. The Print Tool is described as a functional approach to solving handwriting problems that incorporates an evaluation process to identify where the child is having difficulty and then links that difficulty to remediation activities.<sup>2</sup> Table 2 on page 11 describes the eight basic handwriting skill areas assessed in The Print Tool and the suggested handwriting

**Table 1. Caitlin’s Strengths, Concerns, Strategies, and Plan**

**Strengths:** Caitlin loves to read, enjoys computers, participates actively in class, is learning to ask for help from a teacher or a peer, and enjoys singing.

Concerns	Strategies	Suggested Plan
Physically overwhelmed with writing	One word per blank paper (she did better without lines); provided additional handwriting instruction	General education teacher will continue to use these strategies. Oral testing will be used for math instead of writing the answers.  Parents will reinforce strategies at home by having her work on worksheets for additional practice.  Occupational therapist will be asked to meet with teachers to collaborate on additional suggestions to enhance fine motor and writing.
Copying words difficult	One column for spelling lists	
Seldom spaces between words	Verbally—provided reminders; physically—used popsicle stick	
Cutting with scissors difficult	Activities for fine motor control were encouraged at school and at home	



**Caitlin was proud of her writing on The Print Tool assessment.**

**Table 2. The Print Tool Descriptors of the Eight Basic Areas of Handwriting and Suggested Handwriting Expectations****The Print Tool****Description of eight basic handwriting skill areas:**

- |  |  |
|--|--|
| 1. Memory: Remembering and writing dictated letters      | 5. Start: Where each letter begins   |
| 2. Orientation: Facing letter s in the correct direction | 6. Sequence: Order and stroke direction of the letter parts                  |
| 3. Placement: Putting letters correctly on the baseline  | 7. Control: Neatness and proportion of the letter parts                      |
| 4. Size: How big or small a child chooses to write       | 8. Spacing: Amount of space between letters in words, and words in sentences |

**Suggested Handwriting Expectations for 7-year-old children**

	Memory	Orientation	Placement	Size	Start	Sequence	Control	Spacing Letters	Spacing Words
CAPITAL	90%	90%	85%	75%	90%	85%	80%	NA	NA
Lowercase	90%	90%	85%	75%	90%	85%	80%	90%	90%
Numbers	90%	90%	85%	75%	90%	85%	80%	NA	NA

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**Table 3. Caitlin's Performance Before and After Targeted Intervention****Caitlin's Handwriting Performance on The Print Tool (bold/italic numbers indicate discrepancy from expected scores). Before Intervention**

	Memory	Orientation	Placement	Size	Start	Sequence	Control	Spacing Letters	Spacing Words
CAPITAL	<b>85%</b>	100%	<b>32%</b>	100%	95%	94%	<b>55%</b>	NA	NA
Lowercase	<b>65%</b>	100%	88%	<b>65%</b>	94%	100%	<b>47%</b>	90%	<b>10%</b>
Numbers	<b>78%</b>	<b>60%</b>	<b>57%</b>	100%	<b>57%</b>	<b>43%</b>	<b>43%</b>	NA	NA

**Caitlin's performance based on progress monitoring data on targeted goals. After First Targeted Intervention**

CAPITAL			85%				81%		
Lowercase	100%						85%		85%
Numbers	100%		75%				78%		

ing expectations for children who are Caitlin's age. Caitlin's performance on The Print Tool is provided in Table 3. Areas that fell below the suggested handwriting expectations are shaded.

The general education teacher, occupational therapist, at-risk teacher, and Caitlin's mother reviewed Caitlin's performance on both tools. The general education teacher agreed with using the suggested handwriting expectations as a standard for Caitlin's performance. Comparing Caitlin's scores on The Print Tool with the suggested scores for each of these areas, the team identified several areas where Caitlin demonstrated significant delays: memory, orientation (numbers), placement (capital letters and numbers), size (lowercase letters), start and sequence

strokes (numbers), control, and spacing words. For the short-term supplemental instruction, the team decided to target Caitlin's skills in letter formation and control. The following goals were set based on Caitlin's performance on The Print Tool, compared with the suggested scores:

1. Write lowercase letters and numbers from memory (90%)
2. Write numbers and capital and lowercase letters with control (80%)
3. Place letters and numbers on the bottom line (85%)
4. Leave correct spacing between words (90%)

The team agreed to have Caitlin work in a small group with the at-risk teacher three to four times a week,

beginning in February (Tier 2 in the RtI model). The occupational therapist collaborated with the team every 2 to 3 weeks to discuss Caitlin's performance and modify interventions, based on progress-monitoring data. The occupational therapist kept the parents informed of all the ongoing activities by sending notes home every 2 to 3 weeks with suggestions of activities that Caitlin's parents could have her do. Initial activities under targeted intervention included instruction on letter and number formation, teaching Caitlin to check her work to see if the letters and numbers were placed on the bottom line, reinforcing spacing strategies used in the classroom, and enhancing fine motor coordination (e.g., performing small muscle activities such as lacing

small beads). To enhance her coloring performance and fine motor coordination, Caitlin was given the short Handwriting Without Tears crayons to use in the classroom. These crayons have different colors on each end, and the child must flip them over to use the other color. Initially Caitlin could not flip the crayon over without dropping it, but after a few days of practice her coordination improved so that she could manipulate the crayon with the fingers of her preferred hand.

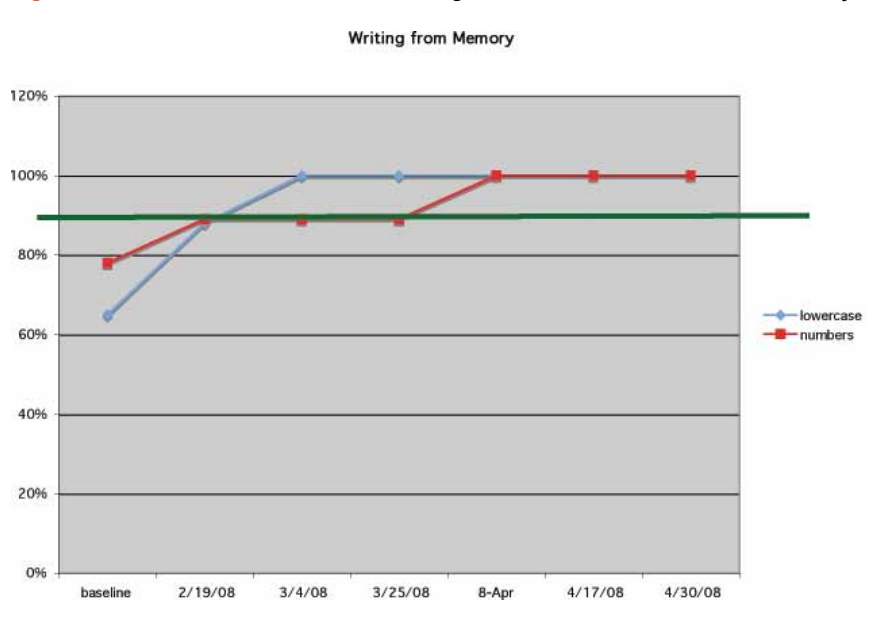
Every 2 weeks, the at-risk teacher collected data by having Caitlin write all of the lowercase letters, capital letters, and numbers on the lined paper used in her classroom. The occupational therapist and at-risk teacher scored these samples. In addition, the classroom teacher collected Caitlin's classroom work (authentic samples) to review the spacing between words. Her progress was graphed, monitored, and shared electronically using Microsoft Excel charts. Figures 2 through 5 indicate Caitlin's progress on the four goals. The green lines indicate the goals that were set by the team, based on targets suggested by The Print Tool.

Ongoing data collection indicated that Caitlin demonstrated progress in learning these skills and meeting these goals. After 8 weeks, the TAT, with the occupational therapist in attendance, met to review Caitlin's performance to determine whether supplemental instruction should continue. Caitlin exceeded the goal of writing letters and numbers from memory with 90% accuracy. Writing letters and numbers with control continues to be difficult, but she has significantly improved her performance. Placing letters on the bottom line also significantly improved. The team agreed that Caitlin was able to form letters easily from memory, but was having difficulty copying words in a sentence and composing her own sentences. These areas will become the focus of her next supplemental instruction (Tier 2 of the RtI model). Her parents continue to carry out the suggestions for at-home activities.

## SUMMARY

Working collaboratively to address the needs of Caitlin, a first-grade student with fine motor and handwriting issues,

**Figure 2. Caitlin's Performance on Writing Letters and Numbers From Memory**



**Figure 3. Caitlin's Performance on Writing Letters and Numbers With Control**

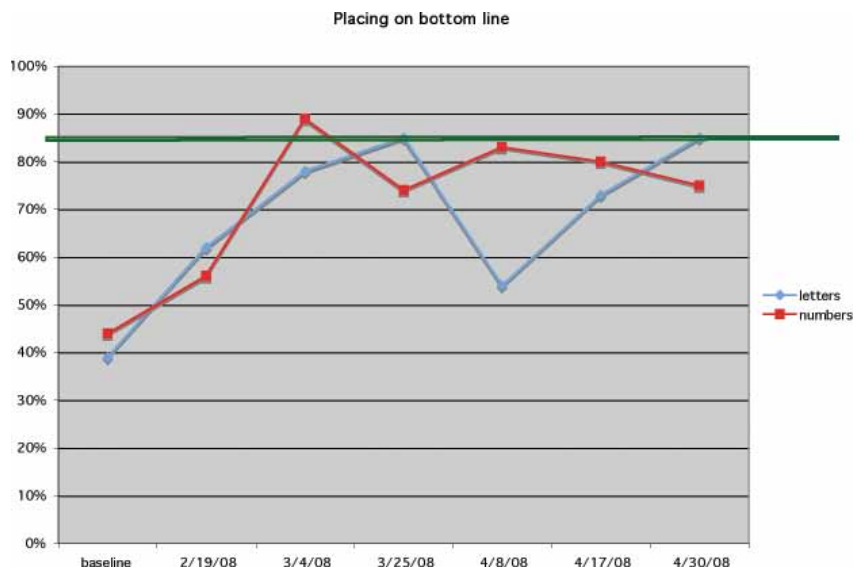


was beneficial and educational for all. As we met to share our perceptions, we built a strong, multidisciplinary team plan. The classroom teacher and at-risk teacher reflected that they didn't feel like they were "alone" but that they were part of a team where each person worked to give Caitlin his or her best. For her part, Caitlin said that she now enjoyed writing. Her mother and teacher noticed that Caitlin did not avoid writing during classroom assignments and that she spontaneously

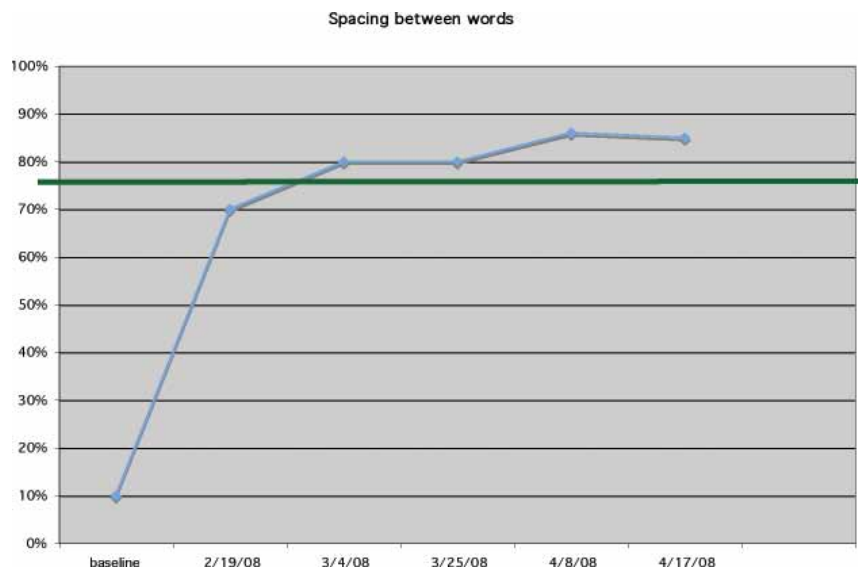
wrote more words in her journal than previously.

This preventative approach incorporates continuous progress monitoring (data-based decision making) and collaborative team efforts to evaluate Caitlin's ongoing needs and determine the future course of action. As Caitlin begins second grade this fall, her writing and fine motor performance will be rescreened by the general education teacher and school occupational therapist. This screening will allow the team

**Figure 4. Caitlin's Performance on Placing Letters and Numbers on the Bottom Line**



**Figure 5. Caitlin's Performance on Spacing Between Words**



to monitor Caitlin's performance and develop a targeted intervention plan to address her needs.

Many state and local education agencies are incorporating the RtI approach into their procedures. Under the Individuals with Disabilities Education Act,<sup>3</sup> parents do not give signed consent for an occupational therapy evaluation until special education is being considered. Intervening with general education students and teachers is a new facet of occupational practice

in many states. Occupational therapy practitioners must work with their state occupational therapy associations and regulatory (licensure) agencies to determine whether their state practice act allows them to provide screening and suggestions to teachers and parents. Intervening with general education children who are at risk for problems with the general education curriculum or behavioral self-management has helped many children to enhance their performance in general

## FOR MORE INFORMATION

### **OTA Self-Paced Clinical Course: *Collaborating for Student Success: A Guide for School-Based Occupational Therapy***

By B. Hanft & J. Shepherd, 2008. (Earn 2 AOTA CEUs [20 NBCOT PDUs/20 contact hours]. \$370 for members, \$470 for nonmembers. To order, call toll free 877-404-AOTA or shop online at [store.aota.org](http://store.aota.org). Order #3023-MI)

### **FAQ on Response to Intervention for School-Based Occupational Therapists and Occupational Therapy Assistants**

By the American Occupational Therapy Association, 2007. Available at [www.aota.org/Practitioners/PracticeAreas/Pediatrics/Tools/FAQonRtI.aspx](http://www.aota.org/Practitioners/PracticeAreas/Pediatrics/Tools/FAQonRtI.aspx)

### ***The Fine Motor Olympics***

(Activities Book and Manual)  
By M. P. Bridgeman, 2002. Framingham, MA: Therapro. (\$45 for members, \$62 for nonmembers. To order, call toll free 877-404-AOTA or shop online at [store.aota.org](http://store.aota.org). Order #1361-MI)

### **New Resource: *Response to Intervention***

By the American Occupational Therapy Association, 2007. Available at [www.aota.org/Practitioners/PracticeAreas/Pediatrics/Tools/40150.aspx](http://www.aota.org/Practitioners/PracticeAreas/Pediatrics/Tools/40150.aspx)

### ***Response to Intervention: A Role for Occupational Therapy Practitioners* (CE on CD™)**

By G. Frolek Clark, 2007. Bethesda, MD: American Occupational Therapy Association. (Earn .2 AOTA CEUs [2 NBCOT PDUs/2 contact hours]. \$68 for members, \$97 for nonmembers. To order, call toll free 877-404-AOTA or shop online at [store.aota.org](http://store.aota.org). Order #4826-MI)

education and avoid a referral to special education. ■

## References

1. Frolek Clark, G. (Ed.). (2005). *IOWAN: Iowa Writing Assessment and Norms*. Des Moines, IA: Iowa Department of Education.
2. Olsen, J., & Knapton, E. (2006). *The Print Tool* (2nd ed.). Cabin John, MD: Handwriting Without Tears.
3. Individuals with Disabilities Education Improvement Act of 2004. Pub. L. 108-446.

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